

CLAIMS

What is claimed is:

1. A system comprising:

an access port adapted to be coupled to a source node through a data link; and
a plurality of client ports coupled to transmit data frames to and receive data frames from the access port,

wherein the access port further comprises:

a first port to transmit and receive data according to a packet based data transmission protocol at a first nominal data transmission rate;

a second port to transmit and receive data according to a stream based data transmission protocol at a second nominal data transmission rate, the second port forwarding received data frames to the first port for transmission according to the packet based data transmission protocol; and

a pause request frame generator to periodically insert a pause request frame among the forwarded data frames on a set period based, at least in part, on a difference between the first and second nominal data transmission rates.

2. The system of claim 1, the system further comprising a switch fabric coupled between the access port and the client ports.

3. The system of claim 2, the system further comprising a network processing device coupled between the access port and the switch fabric to process at least a portion of the forwarded data frames.

4. The system of claim 3, wherein the network processing device comprises logic to determine a destination client port of at least some of the forwarded data frames based, at least in part, on an Internet Protocol address in the forwarded data frames.

5. The apparatus of claim 1, wherein the first nominal data transmission exceeds the second nominal data transmission rate.

6. The apparatus of claim 5, wherein the pause request frame specifies a pause duration, and wherein a product of the pause duration and the set period are substantially proportional to a difference between the first and second nominal data transmission rates.

7. The apparatus of claim 5, wherein the first port comprises a MAC to transmit and receive data frames according to an Ethernet protocol.

8. The apparatus of claim 7, wherein the second port comprises a WAN interface sublayer circuit to transmit and receive data frames according to a SONET protocol.

9. The apparatus of claim 7, wherein the second port comprises a circuit to transmit and receive data according to an asynchronous transmit mode (ATM).

10. The apparatus of claim 7, wherein the second port comprises a circuit to transmit and receive data according to an OTN protocol.

11. The apparatus of claim 7, wherein at least one of the pause duration and the set period are programmable via a Management Data Input/Output Interface.

12. An apparatus comprising:
a first port to transmit and receive data according to a packet based data transmission protocol at a first nominal data transmission rate;
a second port to transmit and receive data according to a stream based data transmission protocol at a second nominal data transmission rate, the second port forwarding received data frames to the first port for transmission according to the packet based data transmission protocol; and
a pause request frame generator to periodically insert a pause request frame among the forwarded data frames on a set period based, at least in part, on a difference between the first and second nominal data transmission rates.

13. The apparatus of claim 12, wherein the first nominal data transmission exceeds the second nominal data transmission rate.

14. The apparatus of claim 13, wherein the pause request frame specifies a pause duration, and wherein a product of the pause duration and the set period are substantially proportional to a difference between the first and second nominal data transmission rates.

15. The apparatus of claim 13, wherein the first port comprises a MAC to transmit and receive data frames according to an Ethernet protocol.

16. The apparatus of claim 15, wherein the second port comprises a WAN interface sublayer circuit to transmit and receive data frames according to a SONET protocol.

17. The apparatus of claim 15, wherein the second port comprises a circuit to transmit and receive data according to an asynchronous transmit mode (ATM).

18. The apparatus of claim 15, wherein the second port comprises a circuit to transmit and receive data according to an OTN protocol.

19. The apparatus of claim 15, wherein at least one of the pause duration and the set period are programmable via a Management Data Input/Output Interface.

20. A method comprising:
receiving egress data according to a packet based data transmission protocol at a first nominal data transmission rate;
transmitting the received egress data according to a stream based data transmission protocol at a second nominal data transmission rate;
forwarding ingress data for transmission according to the packet based data transmission protocol; and

periodically inserting a pause request frame among the forwarded data on a set period based, at least in part, on a difference between the first and second nominal data transmission rates.

21. The method of claim 20, the method further comprising receiving the ingress data according to the stream based data transmission protocol.

22. The method of claim 21, the method further comprising buffering ingress data frames prior to transmission according to the second data transmission protocol.

23. The method of claim 20, wherein receiving the egress data comprises receiving data frames data frames according to a 10 Gigabit Ethernet standard, and wherein transmitting the transmitting the egress data further comprises transmitting the egress data in SONET frames according to OC-192.